



*integrated
solutions provider*



www.jyotigroup.net

JYOTI - One Stop Turnkey Solution

Jyoti group has 38 years of Industrial Knowledge and Experienced company and the global leader in designing as well as manufacturing machineries for the rice industry such as paddy parboiling, Steaming and paddy drier plant. We are the only company in India who has installed biggest Parboiling Plants, Turnkey Projects with Complete Automation Robotics Solutions. Our industrial automation equipment's are intended to help you increase production, reduce costs, and improve product quality. From concept building, designing, engineering, fabrication and installation to fully automated paddy processing plants, we provide solutions for your business for an ever-lasting impact. With a well-designed infrastructure, team of professionals and three decades of experience we have created new millstones in this industry.

700+

PARBOILING/STEAMING PLANT
INSTALLED

1000+

PADDY DRIER INSTALLED

30000

 sq.m

FACTORY PREMISES



TURNKEY

- PLANT DESIGN
- PROJECT MANAGEMENT
- ERECTION AND COMMISSIONING
- COMPLETE AUTOMATION
- TRAINING
- AFTER SALES SERVICE



1ST

COMPANY TO INTRODUCE
STAINLESS STEEL IN RICE
INDUSTRIES

3RD

 DECADE

INDUSTRIAL GROUP, ENJOY
RICH HISTORY OF STAINLESS
EXPERIENCE

300+

MORE THAN 300+ PEOPLE
GETTING EMPLOYMENT
DIRECTLY OR INDIRECTLY



Why Choose Jyoti



Certified Company

Jyoti is certified to DAKKS ISO 9001:2015 to all required for International standard. We provide International testing certificates Like CE and SONCAP



World Class Designing Assistance

Our R&D department, Using Autocadd, Solidworks and TruTops software, your system can be designed in 3D-CAD and coordinated with customers in all parameters relating to paddy process optimization.



Individual Design

Each system is Individually designed, starting from layout drawings, foundation drawings, structural drawings and complete paddy process drawings



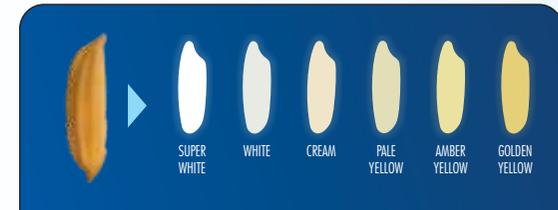
State-of-the-Art Technology

Our name stands for high product quality and short delivery times. This is due to our modern machine park with its high level of automation, the culmination of our continuous optimisation of technology



Premium Quality Material

We are authorized channel partner of Jindal Stainless Limited, SAIL, Chromeni. Components are made of high quality stainless steel like 304 , JSLAUS (4% Nickle), 204Cu, J4 (1% Nickle) , 439 and 441 Grades.



All type processing Solutions

We are only company which have great success in Both Basmati and Non-Basmati solutions, whatever the customer's demand we have the processing solutions.



Erection and Commissioning

We manufacture 90% material in the factory and responsible for erection and commissioning on a designated location and brief the fully operational working of it.



Export competent Unit

We have vast experience of exporting paddy processing plant in many countries like, Bangladesh, Sri-Lanka, Nigeria and Ghana.



On-Site Training Support

Detailed training to your operator to obtain high productivity and innovative methods of working for quality issue during different type of paddy/rice processing.

Paddy Parboiling & Steaming Solutions



High Strength

From angles to beams and sheets to stiffener of complete plant is designed and developed with great strength and good resistance to corrosion, high temperature and wind pressure.

Non-Toxic & Non-Corrosive

Soaking in Stainless Steel tanks is non-toxic, non-corrosive, environmentally friendly, user friendly and especially formulation used in our Tank system. Together our workmanship and non-reactive stainless steel will not allow any toxic and corrosive material in the grain processing.

Long life span

Stainless steel does not fade or become discolored over time. It's also a rust-proof and stain-resistant material, so it will maintain its shine and preserve all of the aesthetic qualities of your Parboiling for several years as compared to hot deep galvanized and enamel coated tanks.

Erection

Since all the connections of the different components are standard and 90% material is manufacture in our factory, the erection time is faster.

Flexibility of Expansion

Par-boiling Plant can be easily expanded in length by adding additional bays. Also, expansion in width and height is possible by pre-designing for future expansion.

Does not affect flavor of grain

Stainless steel is one of the most hygienic surfaces available, so any grain that come into contact with the surface or material do not attract dirt or germs. Stainless steel also does not react with any chemical composition in metals during cooking.

JYOTI Parboiling

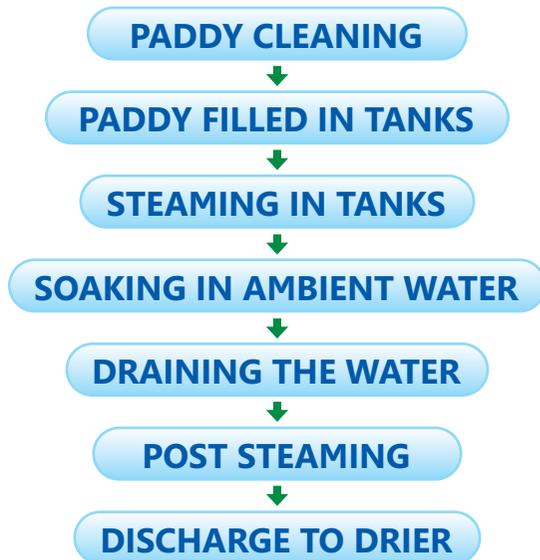
Parboiling of paddy is a hydrothermal treatment on which rice is produced by a process of soaking, heating, steaming and drying of paddy prior to milling. Parboiled Rice is "Par"-tially boiled" (i.e. partially cooked rice) modified the starch which drives natural vitamins & minerals from brans into the grain.



Parboiling Processes



SINGLE STAGE DOUBLE STEAMING



THREE STAGE DOUBLE STEAMING



Technical Solutions

Raw Paddy Storage Bins

Raw Paddy bins are generally made of stainless steel to ensure the strength and makes the bins more suitable for long term storage. These bins consist of panels which are bolted, Hoppers can be delivered in square and round outlet, and the roof is designed with two side inclinations.



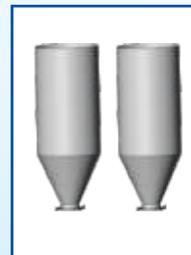
Soaking Tanks

Stainless Steel soaking tank is made professionally for commercial soaking of paddy in the huge water-filled vessels at a particular temperature for a specific period of time. Our tanks have been designed to obtain a homogeneous soaking quality of the paddy, equally important for the soaking time of paddy, water quality and soaking temperature. These tanks are non-toxic and non-corrosive, meaning a safer, cleaner and more hygienic in nature.



Steaming Tanks

Stainless Steel Steaming Tanks made up with free-circulation steam system, Stainless steel Filters protect the grain, maintain processing efficiency. Steaming in tank is evenly distributing precisely moving and reach every single part of grain.



Material

The Material is delivered in parboiling complete with Nut-bolts, support construction, hoppers, Platform, roof construction, Plant decks, ladders, etc. for outdoor or indoor installation. Due to the modular design and construction, the parboiling allows easy extension in case of later demands for higher processing volume.



Structure

Normally, the Parboiling are installed on a certified steel construction according to the plant design. Structural analysis and design for new/existing according to parboiling process and storing facility of grain with civil and wind pressure parameters.



Ladders

Our Parboiling Plant Ladders and cages are assembled from the floor to row section. Provided easy access to the each section of parboiling unit.



Platform

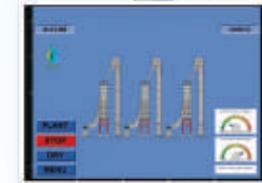
We used non-Slippery Stainless Steel in both external and internal stages of parboiling.



**PARBOILING PLANT
SUCCESSFUL INSTALLATIONS**

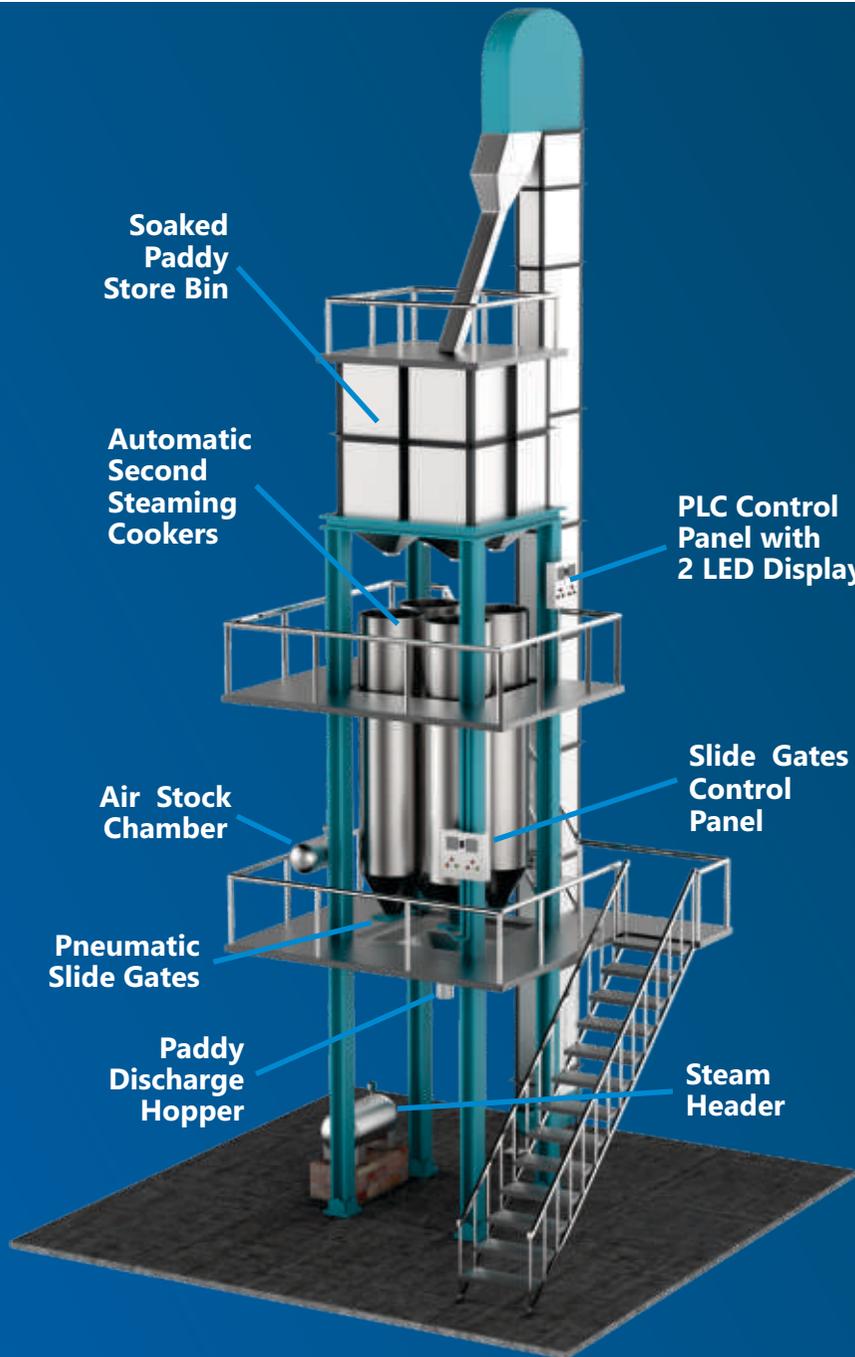


EXPERTISE IN COMPLETE AUTOMATION



Over decades, JYOTI control and electronic technology has established itself as reliable partner for switchgear construction, electrical installation, commissioning and maintenance. Our control contracts include **PLC** and **SCADA** for process control with associated electrical control panels. With the highest claims to quality, we offer you a diversified range of electrical engineering, automation technology, process visualization, switchgear construction from our own production. We can accept our services according to customer request or as turnkey order. The benefits of being a turnkey partner encompass design and execution, as well as subsequent servicing, when the need for such arises. This includes both on-site and online servicing.

SWITCH TO COMPLETE POST STEAMING/PAKKI AUTOMATION



AUTOMATED SLIDE GATE

The pneumatic technology discharge design ensures even and uniform steaming dwell times in the steaming tanks. The jerking motion of the discharge also results in a kind of self-cleaning from the steaming tank.



TOUCH SCREEN PLC

Intelligent Colored Touch Screen Siemens PLC based operation and easy integration with the existing plant automation remove the necessity of continuous monitoring.



CONTROL/PANELS

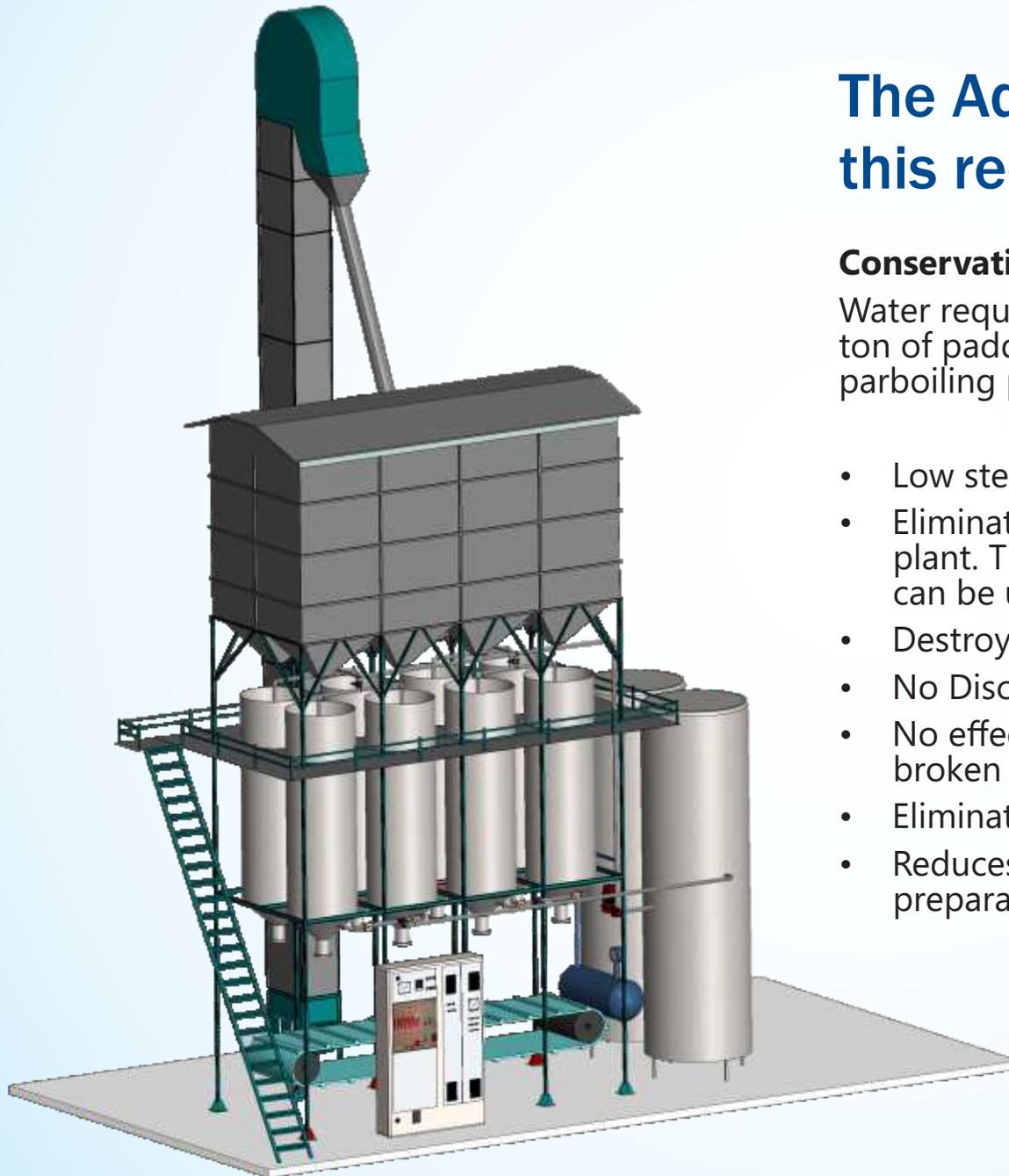
Control unit with convenient operation. Simple and easy to operate control panel no computer technician needed.



PRS SYSTEM

Automated Steam saving process for Lower the crackness of the rice to offer High yield product and High value whiteness intended for Better rice cooking.

Automated Hot Water Circulation



The Advantages of this recycling are:

Conservation of water

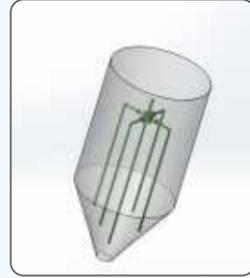
Water requirement is reduced from 1.20 kl to 0.30 kl per ton of paddy processed. Water demand for the parboiling process is reduced by 4 times.

- Low steam requirement - Energy conservation.
- Eliminates need for expensive waste water treatment plant. The 5% water discharge from bottom of tank can be used for plants, road cleaning etc.
- Destroys or inactivate micro organisms.
- No Discoloration, offensive flavour.
- No effect on quality of rice including color, flavour, broken and food quality and food safety.
- Eliminates water pollution.
- Reduces Husk consumption in hot water preparation.

Automated Line of Production

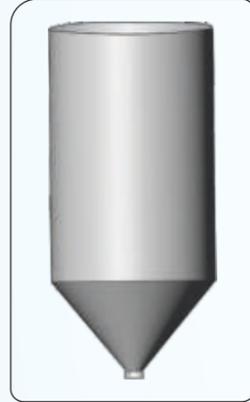
Steam: (Kachi) Pre Steaming

- Fills the crack and fissures in paddy.
- Increases the porosity of paddy and moisture content.
- Reduces Hydration Time.



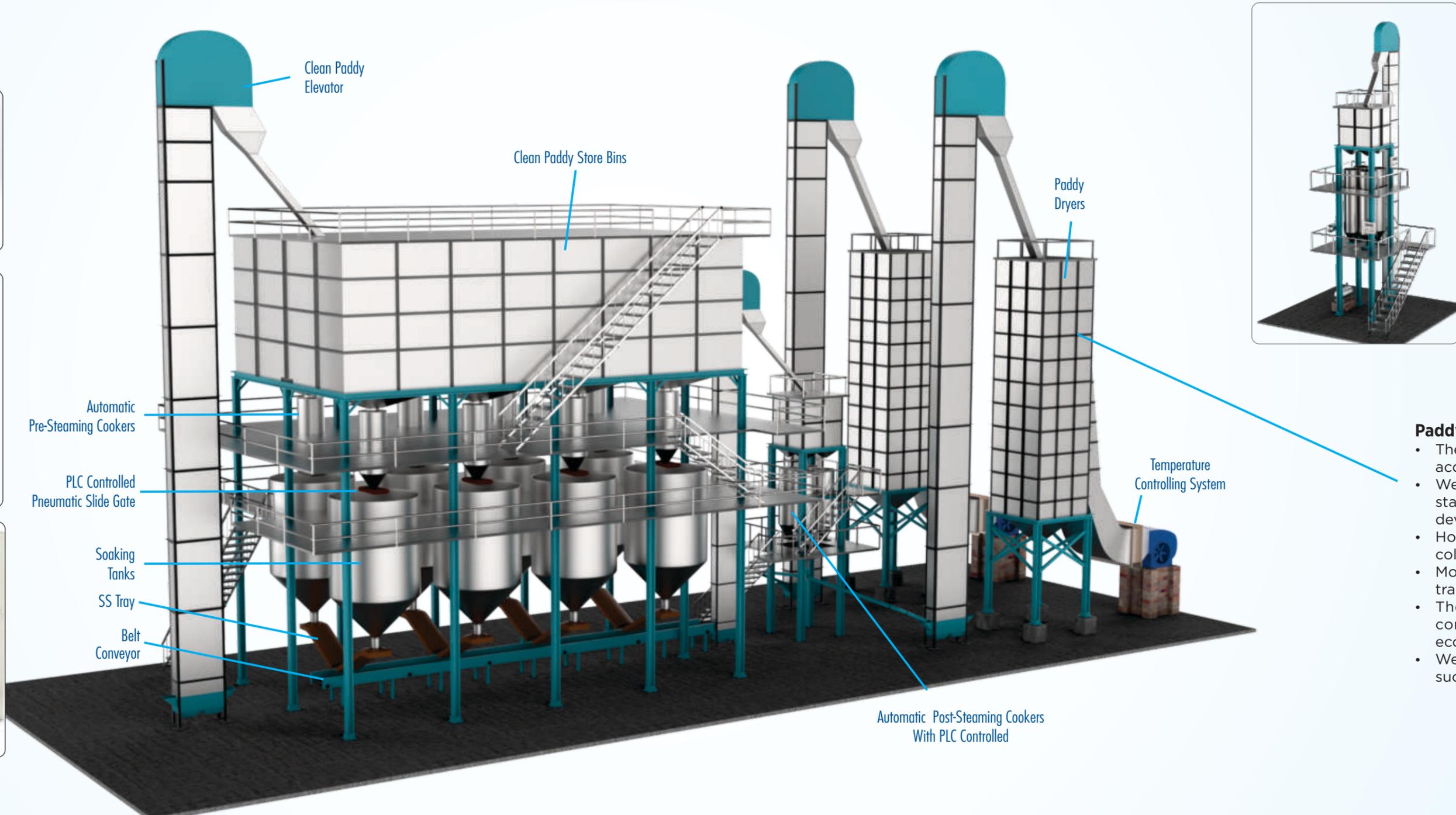
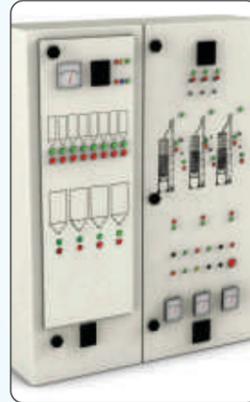
Soaking Tank:

- Gelatinization process of the paddy helps in Grain swelling, increases nutrients and brings transparency shine to the rice.
- Increases moisture content and decreases the percentage of broken rice.
- Desired colour of the rice can be given by the soaking process.



PLC CONTROL PANEL:

- Our all-manufactured panels are ISO standard.
- Separate control logic for all different sections. i.e. drier, blower, automatic pakki section and water circulation. (Pre- steaming and post steaming)
- Low maintenance, excellent performance and high durability products.
- Colourful touch screen and HMI is use for controlling all the operational panels.
- Continuous monitoring of steam pressure plus gives an alert alarm and trip when the steam pressure is low.



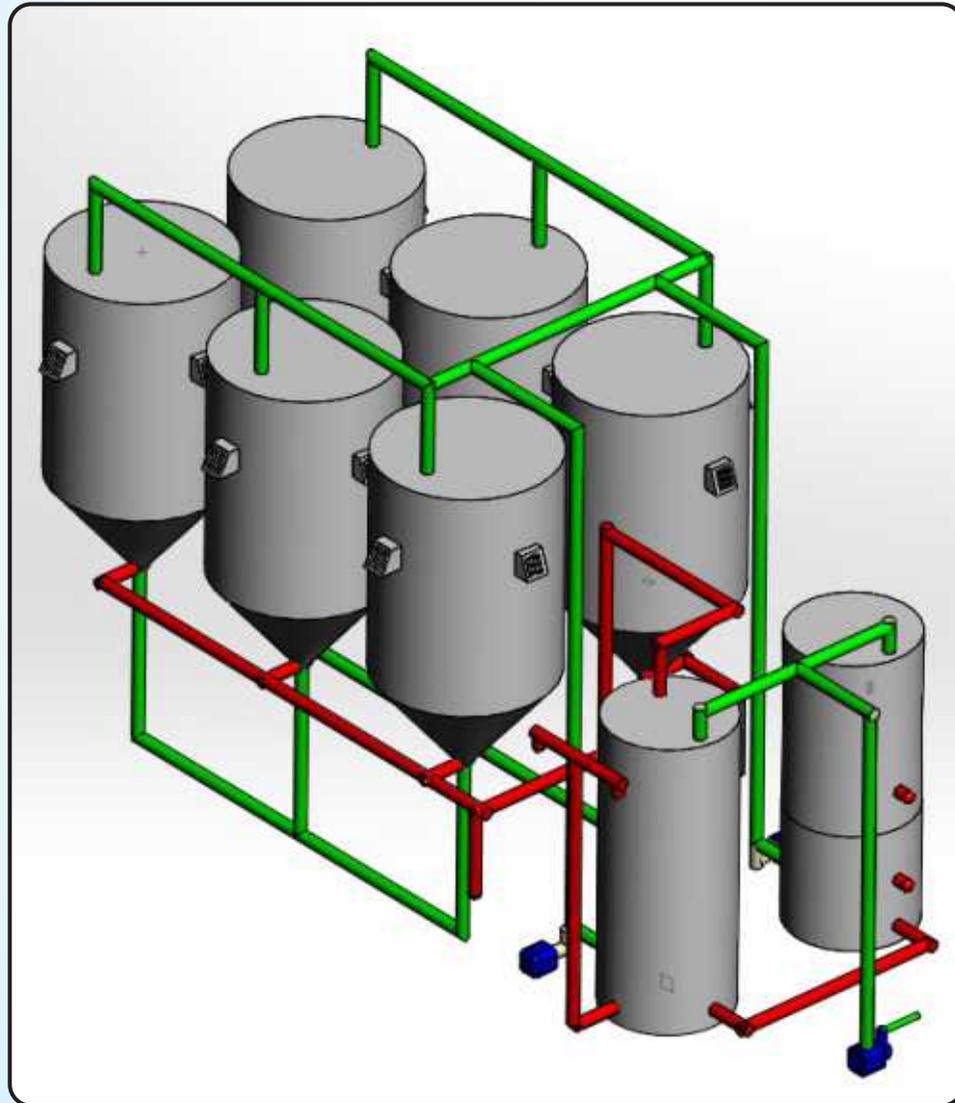
Automatic:

- Regularly monitored and automatically controlled by the PLC.
- Highly suitable for steam boiled and half boiled.
- Uniform steaming procedure for rich colour and better quality.
- Maintaining and Controlling pressure by the PRS.
- Fully Automatic system for hassle free workflow and to Increase the Productivity.

Paddy Driers

- The high moisture content of paddy which has been acquired during final cooking.
- We design Hot Air Automation (pressure reducing station) with care, so the obtained rice does not develop any broken and the homogeneous moisture.
- Hot air is allowed to penetrate through mixing columns of paddy.
- Moisture is carried away by hot air generated by transferring heat form steam by heat exchanger.
- The process is done on batches of paddy or continuously online for better automation and economy.
- We made conventional dryer as well as dust free suction type dryers also.

Processed Water Recycle System



BENEFITS OF RECYCLING THE PROCESSED WATER:

- Water Prevention - Lessen the water requirement from 1.20 kl to 0.30 kl per ton of paddy processed. Demand of water for the parboiling process is reduced by 4 times.
- Low Steam requirement - Essential in Energy Conservation.
- Completely removes the need for expensive waste water treatment plant. The 5% water discharge from bottom of tank can be used for plants, road cleaning etc.
- Finishes or inactivate the micro organisms.
- You will find no effect on the quality of rice such as in color, flavour, broken, food quality and food safety.
- Protects the Environment and Eliminates water pollution.
- Reduces Husk consumption in hot water preparation.

Paddy Drying Solutions

We are experts in Grain Dryer technology. No matter what crop you are growing or where you are farming we can provide a solution that will work for you. We provide professional service and installation on a variety of setups including custom-designed permanent installations models in numerous sizes.



1. Minimum Maintenance
2. Low Energy Consumption
3. Flexible Modular Constructing
4. large volume capacity available
5. Easy access throughout for inspection purposes
6. Extremely user-friendly controls
7. Remarkably gentle processing of the grain
8. Optimum energy savings by circulating air and heat recovery
9. Scientifically fitted finned tubes provides, no heat loss
10. Suitable for drying larger quantities of grain
11. High performance fans and air heating technology
12. Highest quality material ensuring long life
13. Uniform product moisture by modern discharge technology
14. Fitted with high performance bucket elevators.
15. Quick and steady moisture removing without hurting paddy quality.

Customised Drying Solutions

Jyoti is manufacturing a wide range of dryers from small batch dryers to high capacity commercial large batch dryers. In all of our dryers we are using the highly efficient flow of hot air principle to assure gentle and even drying. The drying product is conducted through the dryer by gravity from above to below. The grain slowly zigzags its way through the drying chamber and each grain is dried with air hitting it alternately from above and below. All of our dryers are constructed in high quality Stainless Steel or can be tailored to meet specific customer demands by use of our standard components



Technical Solutions

Drying Section

The efficient and silent rectangularly profiled bucket elevator guarantees fast operations and loading/unloading of the dryer. The elevator will give many years of service: all its structures are manufactured from Stainless steel. The elevator comes equipped with a shaft mounted geared motor, High tensile HR grade belting, Stainless Steel Buckets and Bolts, Heavy Duty Top and Bottom and delivery pipe all are specially designed for wet paddy circulation

Storage Bins

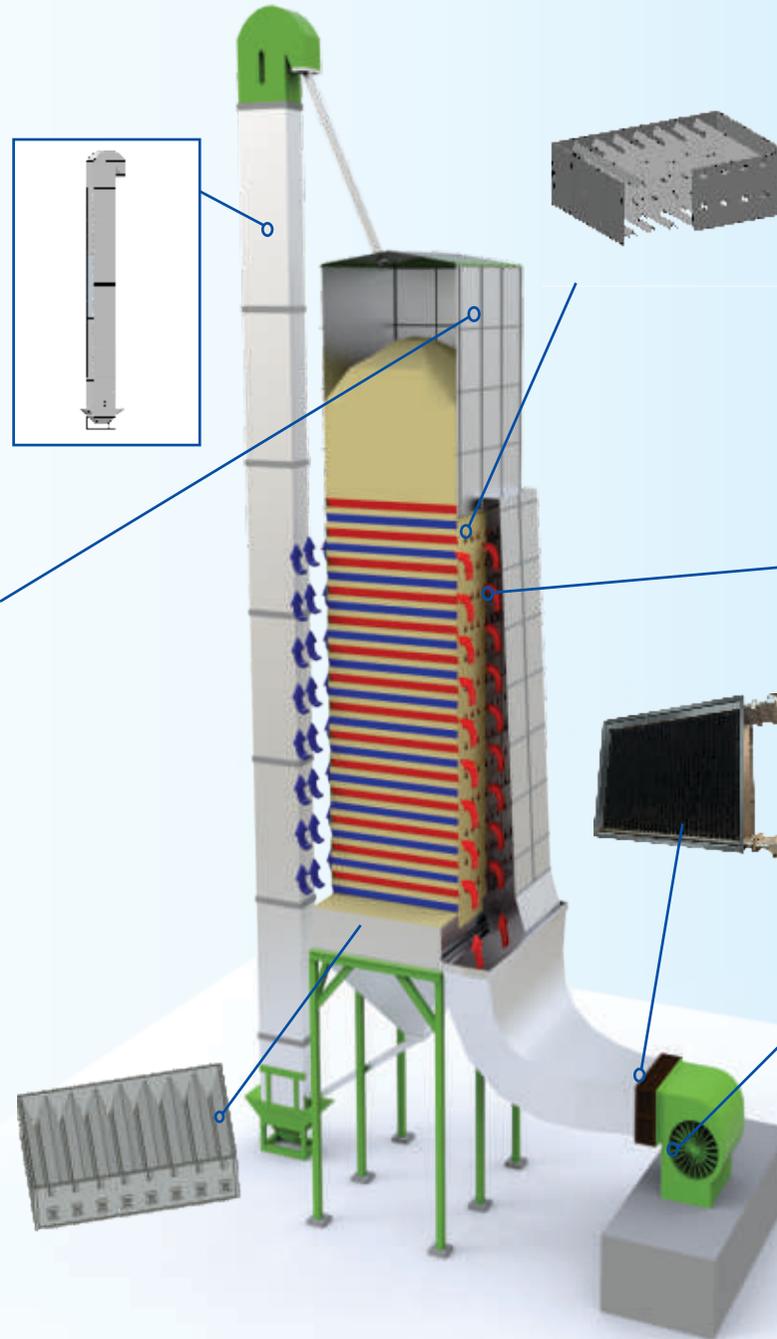
Maximum no. of Tied Rods Supports higher peak loads and allowing more grain to move into storage faster than ever before. The design of storage bins increases the strength, allowing you to go taller with your grain drying system and have more flexibility in design.

Sturdy Construction

The driers consist of High grade Stainless steel, and Heavy duty Steel Structure which ensures a great strength and concise structure. Heavy-duty construction makes durability for longer operation and minimal maintenance. Drier leg extensions are available and can be easily installed as needed for added clearance under the dryer.

Discharge Section

A heavy duty Multi rotors discharge gates provide work for the first-in first-out of grain flow. Provided variable-speed motor, the unloading system's speed can be automatically adjusted. This discharge system gives a homogeneous flow, easy to clean and gently deliver it to the unloading point at the perimeter of the dryer.



Drying Section

Homogeneous Grain Flow as number and thickness of baffles in chamber is more for smooth drying without formation of cracks in grain. All heated air must pass through the grain column resulting in total use of heated air. The dryer sections are designed to eliminate the rapid contact of the drying grain column with incoming hot air which reduces excessive grain breakage. Air baffles are Zig-Zag from row to row to maximize grain turnings during drying stages.

Air Ducts

Air Ducts for the grain and finest airflow through the dryer. The Stainless Steel air duct designed in such way which provides equal and even hot air towards drier. turnings during drying stages.

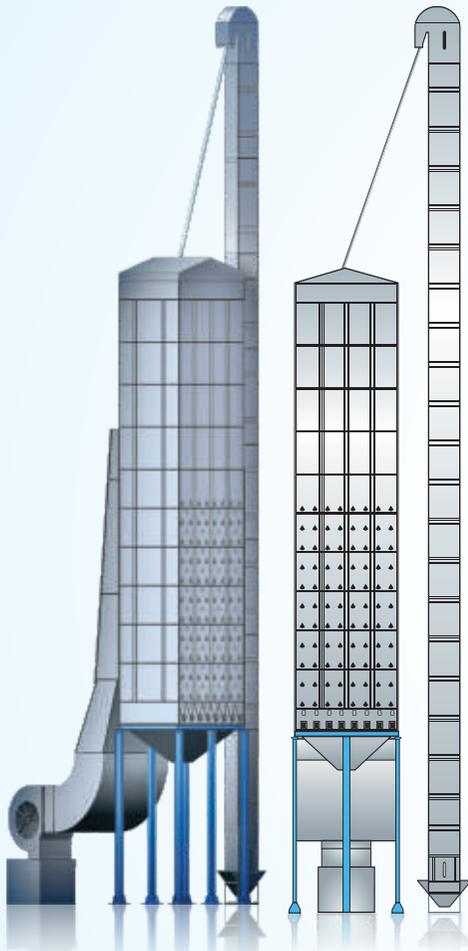
Steam Heat Exchanger

To reach the drying temperature level a steam heat exchanger is applied according to the source of steam (either Boilers or Rice Husk Furnace). The Heat Exchanger made of seamless Carbon Steel tube with Aluminum extruded Fins. Steam pressure should be around 7kg/cm.

Centrifugal Fan

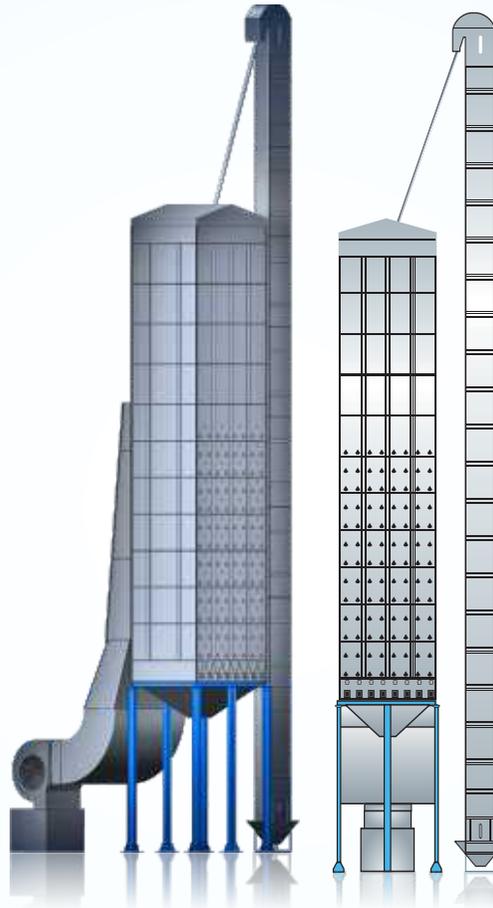
Immense air volume enables the use of low drying temperature thus minimizes internal breakage of grain. A high competence, backward curved centrifugal fan with low revolution speed ensures trouble free operation and long service life. Power is economically and fully utilized to produce the best yield.

24 Tons Drier



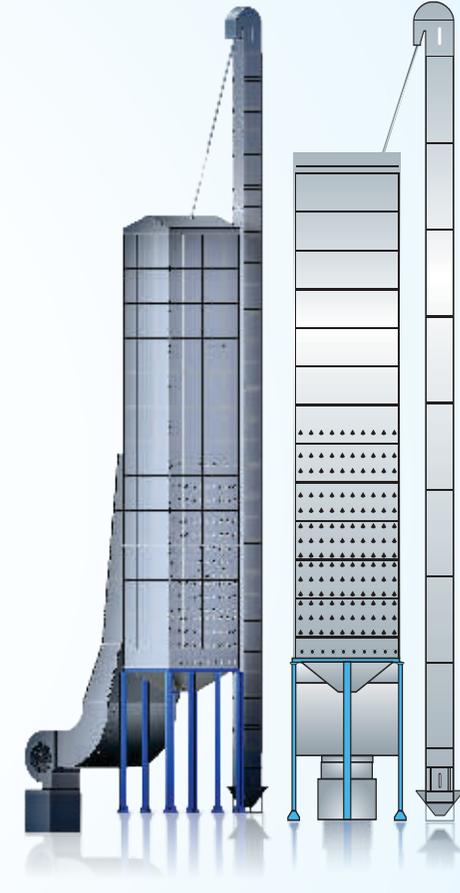
Space Requirement	13x30 fts.
Power Requirement	25 HP
Steam Kg/Hr.	800
Blower CFM	25000
Height of Elevator	70 fts.
Buckets in Elevator	10"
Height of Drier	55 fts.
Loading Time	60 min.

32 Tons Drier



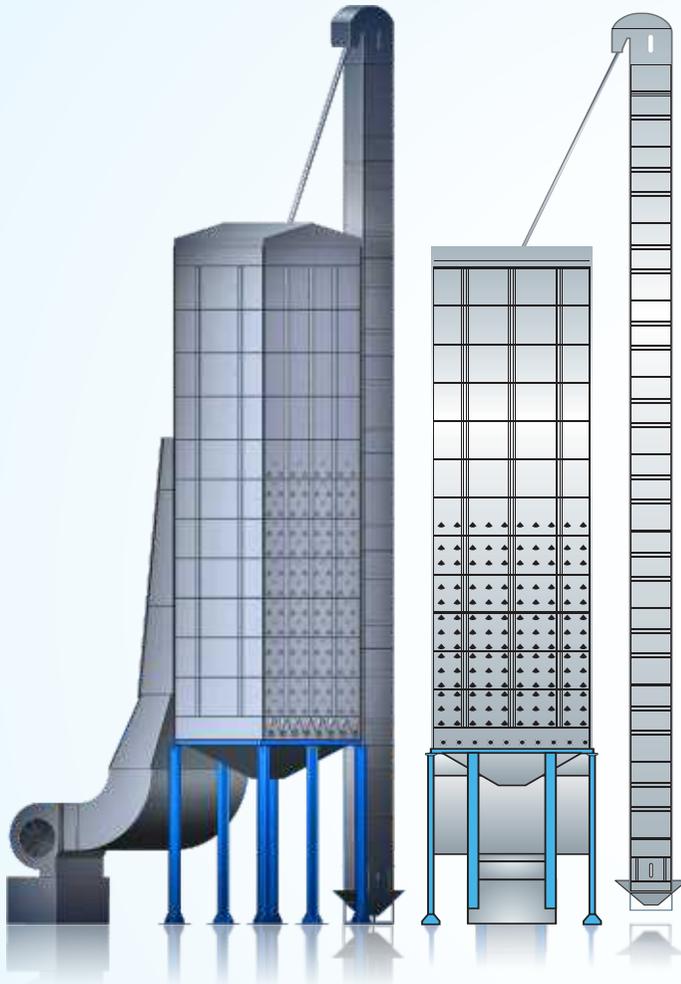
Space Requirement	13x30 fts.
Power Requirement	28 HP
Steam Kg/Hr.	1100
Blower CFM	34000
Height of Elevator	75 fts.
Buckets in Elevator	12"
Height of Drier	60 fts.
Loading Time	75 min.

40 Tons Drier



Space Requirement	13x30 fts.
Power Requirement	35 HP
Steam Kg/Hr.	1600
Blower CFM	46000
Height of Elevator	82 fts.
Buckets in Elevator	12"
Height of Drier	67 fts.
Loading Time	90 min.

50 Tons Drier



Space Requirement 22x37 ft.

Power Requirement 55 HP

Steam Kg/Hr. 1900

Blower CFM 52000

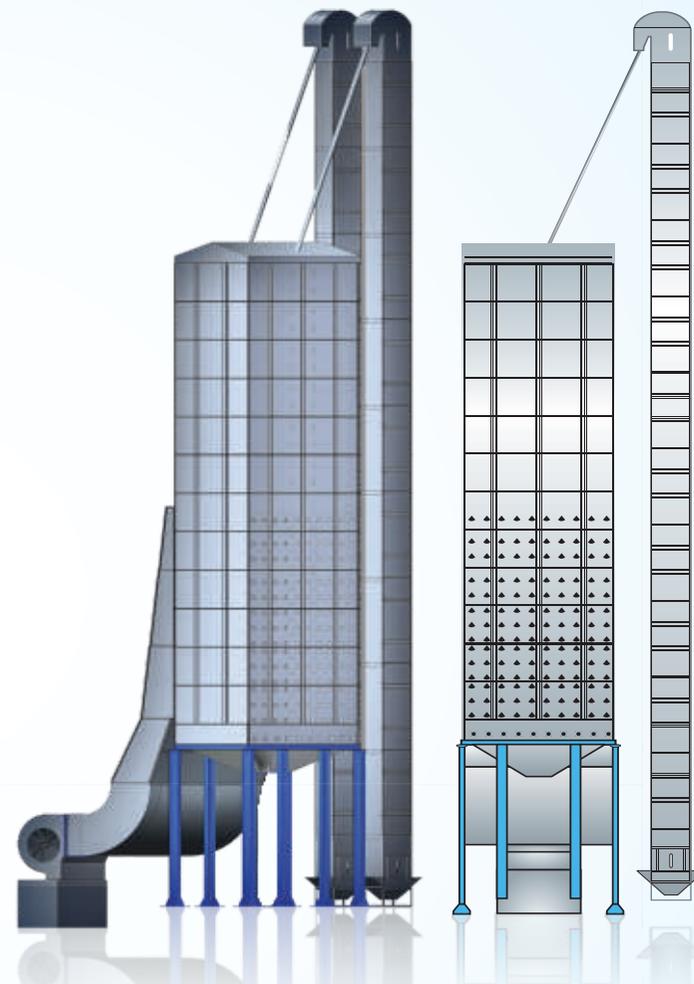
Height of Elevator 82 ft.

Buckets in Elevator 14"

Height of Drier 67 ft.

Loading Time 110 min.

60 Tons Drier



Space Requirement 24x37 ft.

Power Requirement 55 HP

Steam Kg/Hr. 2250

Blower CFM 62000

Height of Elevator 82 ft.

Buckets in Elevator 14x2"

Height of Drier 67 ft.

Loading Time 130 min.



**DRIERS
SUCCESSFUL INSTALLATIONS**



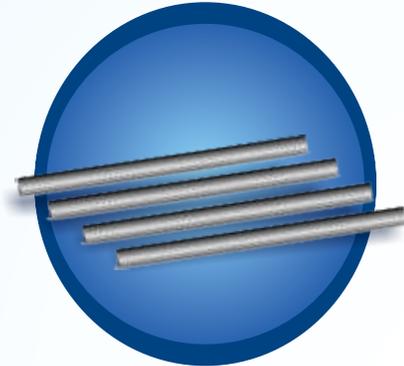


Rebuilding your Existing Parboiling & Dryers

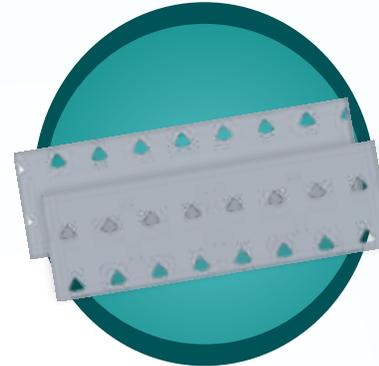
Now customer will get their individuals and customised requirements in their existing dryers & parboiling plants.



Stainless Steel Baffles



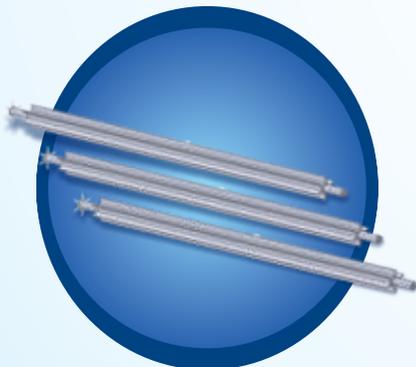
Stainless Steel Steam Filter



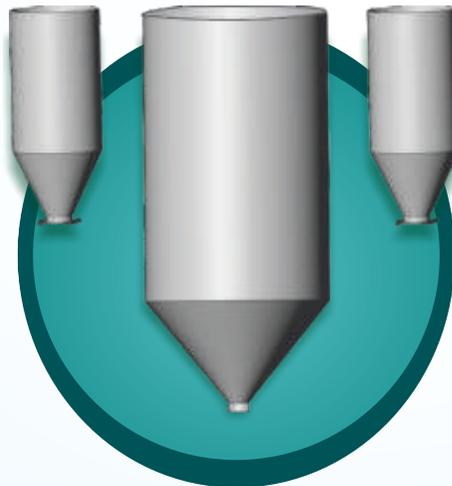
Stainless Steel Drier Panels



Elevator Belts & Buckets



Stainless Steel Worm Shaft



Stainless Steel Soaking Tanks and Kachi-Pakki Tanks



The Steam Heat Exchanger made of Seamless Carbon Steel Tube with Aluminum extruded fins.

Infrastructure



TRUMPF High Precision Laser Cutting Machine



CNC Sharing Machine



Tig Welding



Workshop



Mig Welding



CNC Press Break Machine



Sheet Bending Machine



Decoiler & Cut to Length Machine



CNC Lathe/Turning Machine

Turnkey Projects

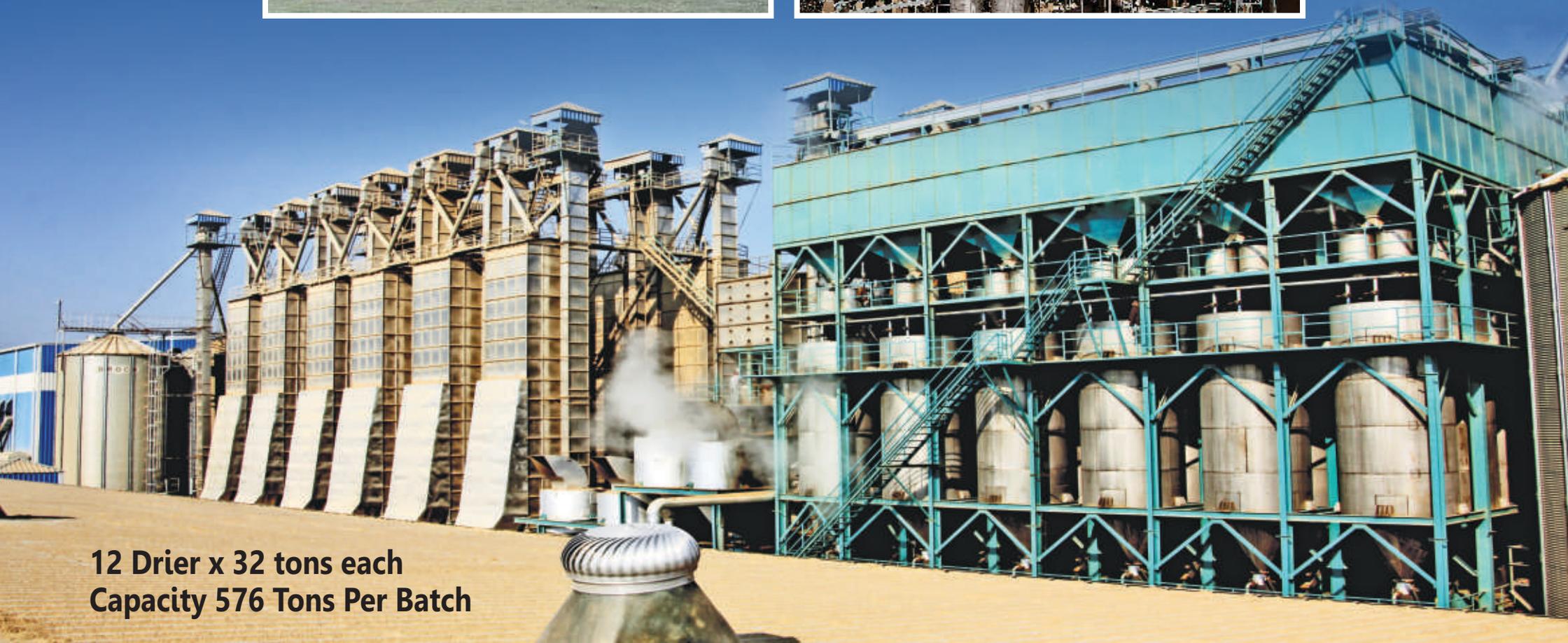
8 Drier x 24 tons each
Capacity 300 Tons Per Batch



7 Drier x 32 tons each
Capacity 350 Tons Per Batch



12 Drier x 32 tons each
Capacity 576 Tons Per Batch



Clientele



www.jyotigroup.net

Global Presence

- Nigeria
- Bangladesh
- Nepal
- Sri Lanka

India Presence

- Haryana
- Madhya Pradesh
- Bihar
- Punjab
- Gujarat
- Rajasthan
- Delhi
- Maharashtra
- West Bengal
- Orissa
- Uttarakhand
- Chattisgarh
- Uttar Pradesh



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PARBOILING

DRYING

HANDLING

PROCESSING

TURNKEY

